

## **Abstract**

5 This invention provides a method to discriminate between ventricular arrhythmia and supraventricular tachycardia by detecting an earliest arriving electrical signal following anti-tachycardia pacing. Also disclosed is an implantable cardiac defibrillator that is capable of simultaneous atrioventricular anti-tachycardia pacing bursts and detecting an earliest arriving electrical signal. This discrimination capability reduces the incidence of inappropriate shocks from dual-chamber implantable cardiac defibrillators to near zero and provides a method to differentially diagnose supraventricular tachycardia from ventricular tachycardia.